

HISTORIC PROPERTY INVENTORY FORM

IDENTIFICATION SECTION

Field Site No. 107-N OAHF No. Date Recorded 13-Feb-95

Site Name Historic Basin Recirculation Facility

Common Recirculation Cooling Building

Field Recorder Kristine M. Bowen, Evaluator: Darby Stapp

Owner's Name U.S. Department of Energy, Richland Operations Office

Address P.O. Box 550

City/State/Zip Code Richland, WA 99352

Status

☒ Survey/Inventory

☐ National Register

☐ State Register

☐ Determined Eligible

☐ Determined Not Eligible

☐ Other (HABS, HAER, NHL)

☐ Local Designation

Photography

Photography Neg. No. 92050126-41cn

(Roll No. & Frame No.)

View of South corner

Date 1992

Classification

☐ District

☒ NR

☐ Site

☐ SR

☒ Building

☐ LR

☐ Structure

☐ INV

☐ Object

Contributing

☒ Non-Contributing

District/Thematic Nomination Name Hanford Site Manhattan Project and Cold War Era Historic District

Description Section

Materials & Features/Structural Types

Building Type Industrial

Plan Irregular

Structural System Reinforced Concrete

No. of Stories 4

Roof Type

☐ Gable

☒ Flat

☐ Monitor

☐ Gambrel

☐ Shed

☐ Hip

☐ Pyramidal

☐ Other (specify)

Cladding (exterior Wall Surfaces)

☐ Log

☐ Horizontal Wood Siding

☐ Rustic/Drop

☐ Clapboard

☐ Wood Shingle

☐ Board and Batten

☐ Vertical Board

☐ Asbestos/Asphalt

☐ Brick

☐ Stone

☐ Stucco

☐ Terra Cotta

☒ Concrete/Concrete Block

☐ Vinyl/Aluminum Siding

☐ Metal (specify)

☐ Other (specify)

Roof Material

☐ Wood Shingle

☐ Wood Shake

☐ Composition

☐ Slate

☒ Tar/Built-up

☐ Tile

☐ Metal (specify)

☐ Other (specify)

☐ Not visible

Foundation

☐ Log

☐ Post & Pier

☐ Stone

☐ Brick

☐ Not visible

☐ Concrete

☐ Block

☒ Poured

☐ Other (specify)

Integrity

(Include detailed description in Description of Physical Appearance)

Changes to plan

Changes to windows

Changes to original cladding

Changes to interior

Other (specify)

Intact

Slight

Moderate

Extensive

State of Washington, Department of Community Development

Office of Archaeology and Historic Preservation

111 21st Avenue Southwest, Post Office Box 48343

Olympia, Washington 98504-8343 (206)753-4011

LOCATION SECTION

Address

City/Town/County/Zip Code Richland, WA/Benton County/99352

Twp. 14N Range 26E Section 28 1/4 Section NW 1/4 1/4 Sec SE

Tax No./Parcel No.

Quadrangle or map name Coyote Rapids 7.5 min. series

UTM References Zone 11 Easting 303974 Northing 5172485

Plat/Block/Lot

Supplemental Map(s) 100-N Area Buildings



High Styles/Forms (Check one or more of the following)

☐ Greek Revival

☐ Gothic Revival

☐ Italianate

☐ Second Empire

☐ Romanesque Revival

☐ Stick Style

☐ Queen Anne

☐ Shingle Style

☐ Colonial Revival

☐ Beaux Arts/Neoclassical

☐ Chicago/Commercial Style

☐ American Foursquare

☐ Mission Revival

☐ Spanish Colonial Revival/Mediterranean

☐ Tudor Revival

☐ Craftsman/Arts & Crafts

☐ Bungalow

☐ Prairie Style

☐ Art Deco/Art Moderne

☐ Rustic Style

☐ International Style

☐ Northwest Style

☐ Commercial Vernacular

☐ Residential Vernacular (see below)

☒ Other (specify)

Industrial Vernacular

Vernacular House Types

☐ Gable Front

☐ Gable Front and Wing

☐ Side Gable

☐ Cross Gable

☐ Pyramidal/Hipped

☐ Other (specify)

NARRATIVE SECTION

Study Unit Themes (check one or more of the following)

<input type="checkbox"/> Agriculture	<input type="checkbox"/> Conservation	<input type="checkbox"/> Politics/Government/Law
<input type="checkbox"/> Architecture/Landscape Architecture	<input type="checkbox"/> Education	<input type="checkbox"/> Religion
<input type="checkbox"/> Arts	<input type="checkbox"/> Entertainment/Recreation	<input type="checkbox"/> Science & Engineering
<input type="checkbox"/> Commerce	<input type="checkbox"/> Ethnic Heritage (specify) _____	<input type="checkbox"/> Social Movements/Organizations
<input type="checkbox"/> Communications	<input type="checkbox"/> Health/Medicine	<input type="checkbox"/> Transportation
<input type="checkbox"/> Community Planning/Development	<input type="checkbox"/> Manufacturing/Industry	<input checked="" type="checkbox"/> Other (specify) <u>Manhattan Project &amp; Cold War Era</u>
	<input type="checkbox"/> Military	<input checked="" type="checkbox"/> Study Unit Sub-Theme(s) (specify)
		<u>Cold War/Nuclear Fuel Production</u>
		<u>Waste Management, Treatment (Liquid)</u>

Statement of Significance

Date of Construction	<u>1983</u>	Architect/Engineer/Builder	<u>United Nuclear</u>
<input checked="" type="checkbox"/>	In the opinion of the surveyor, this property appears to meet the criteria of the National Register of Historic Places.		
<input checked="" type="checkbox"/>	In the opinion of the surveyor, this property is located in a potential historic district (National and/or local).		

The spent fuel storage basin in the 105-N Building operated in a single-pass cooling mode from the time of initial N Reactor operation until the 107-N Basin Recirculation Facility became operational in 1984. Until December 1984, cooling water from the N Basin was disposed in the 116-N-1 Crib, more commonly known as the 1310-N Crib. When elevated levels of radionuclides were observed at N-Springs, the origin of which was the 1310-N Crib, planning for the N-Basin Recirculation Facility commenced. Essentially all of the strontium-90 and cesium-137 discharged to the 1310-N Crib originated from the 105-N Spent Fuel Storage Basin. Once operational, the 107-N Facility served as a filter and pump facility for the recirculation of N Basin water to remove radioisotopes and sludge and return it to the basin. Mixed wastes were routed to a storage tank, where they were neutralized and pumped to the 1314-N Liquid Waste Loadout Station.

This property is not associated with an important person (Criterion B), does not possess any distinctive architectural features or methods of construction (Criterion C), and does not qualify under Criterion D as the principal source of important information. However, the 107-N Facility does demonstrate an important association with historic events or trends at 100-N and the Hanford Site in general (Criterion A). The late 1970's/early 1980's was a period of increasing concern about environmental issues nationwide and especially at Hanford. One of the important themes at N Reactor was the technological enhancements directly related to human and environmental health. The failure to design a recirculating water cooling system for the N Basins directly led to the contaminated N-Springs, an environmental issue which remains unresolved even today. Once confronted with the contamination problem, the U.S. Department of Energy addressed the deficiency by constructing the 107-N Facility. The operation of the 107-N Facility became a critical component to the production system at 100-N thereafter. The 107-N Facility qualifies under Criterion A due to its association with the Cold War production of plutonium at N Reactor, and its contribution to Reactor Operations, specifically the Waste Management System. Therefore, it is the conclusion of the U.S. Department of Energy that the 107-N Facility is eligible under Criterion A for inclusion on the National Register of Historic Places as a contributing property within the Hanford Site Manhattan Project and Cold War Era Historic District.

Description of Physical Appearance

The 107-N Facility is an irregular shaped, four-story, reinforced concrete building with a concrete foundation. The building is situated on a steep slope thus creating two stories above ground and two below on the south side, and four stories above ground on the north side. The flat roof has a surface of builtup tar and gravel. The 107-N Facility is approximately 89 ft by 56 ft (27 m by 17 m); 4,984 ft<sup>2</sup> (459 m<sup>2</sup>). The 107-N Facility has undergone slight changes to the original plan; there is a corrugated metal building addition on the northeast side.

The N Reactor UTM coordinates are as follows: Northeast corner - 303974E, 5172485N; southeast corner - 303974E, 5171639N; southwest corner - 303069E, 5171639N; northwest corner - 303069E, 5172485N.

Major Bibliographic References

Bechtel Hanford, Inc. 1994. "Pre-Existing" Conditions Survey of Hanford Site Facilites to be Managed by Bechtel Hanford, Inc . BHI-00221, Rev. 00, Phase II.

Recirculation Cooling System Site Plan, Drawing No. H-1-43162, 1986.